

# BELMONT COMMUNITY PATH FEASIBILITY STUDY

Public Meeting #7 –  
Central Area

February 15, 2017



# AGENDA

- |                             |                 |
|-----------------------------|-----------------|
| 1. Introduction             | Russell Leino   |
| 2. Purpose and Process      | Amy Archer      |
| 3. Alternatives Design/Cost | Amy Archer      |
| 4. Advanced Matrix          | Kathleen Fasser |
| 5. Public Engagement        | Open Discussion |
| 6. Next Steps               | Amy Archer      |

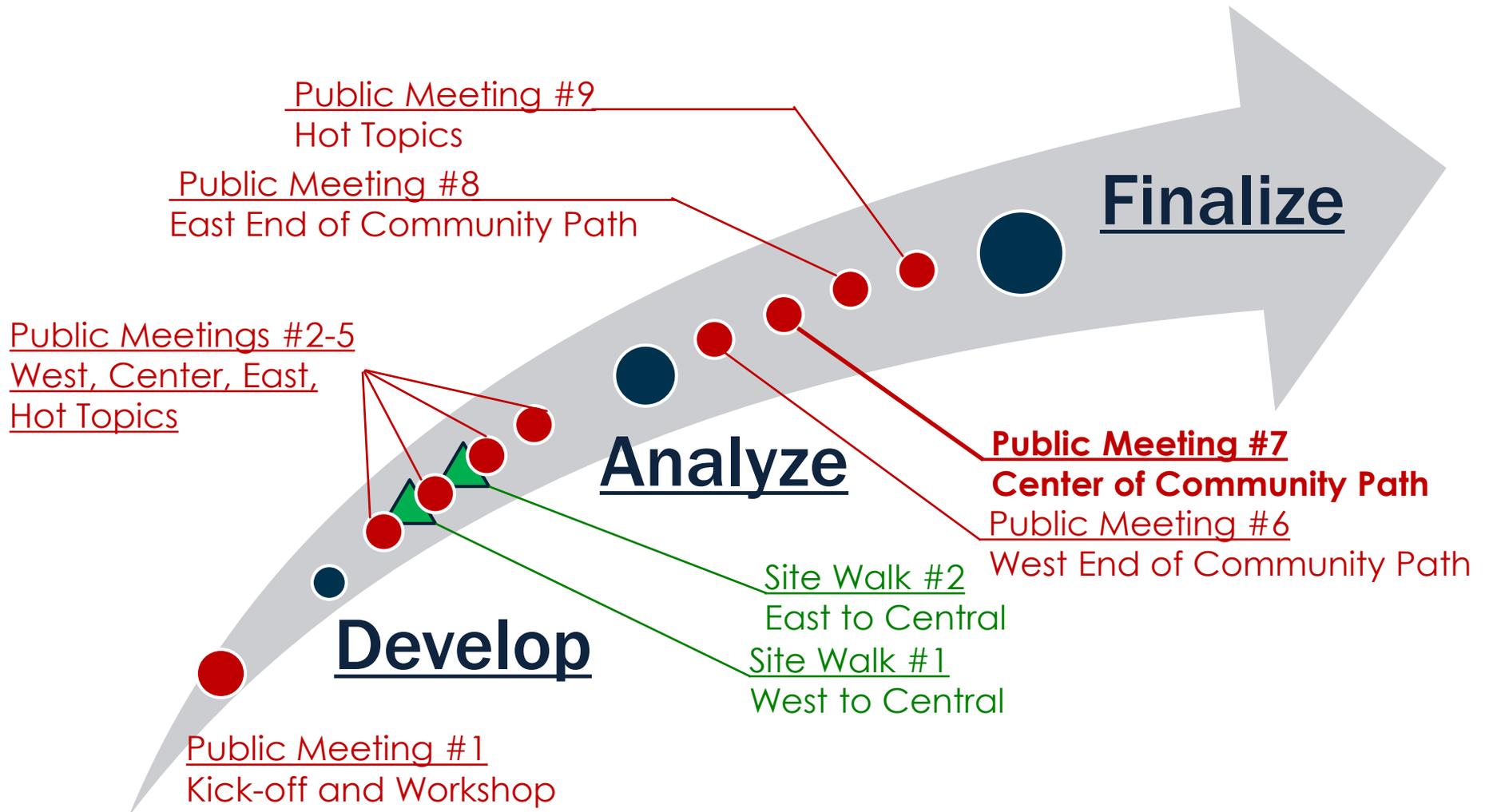
# PURPOSE/LEVEL OF DESIGN

- To recommend a single route that will best serve the Town's residents AND function as a segment of the MCRT.
- Feasibility study intended to advance to conceptual design and planning cost estimate
  - Define path options
  - Quantify impacts
  - Quantify costs
  - Weight and rank alternatives

# PUBLIC ENGAGEMENT GOALS

- A collaborative effort
  - Engaging and considering all stakeholders equally
  - Reflecting interests in project decisions
  - Responsibility of ALL to engage in respectful civil discourse

# PROCESS



# CENTRAL SEGMENT ALIGNMENTS



# CONTINUE TO CLARK STREET (C1)

## ■ C1a: CPAC Alignment

- Descend from Lone Tree Hill (W5a – MSE wall) or continue along north side Pleasant (W5b – masonry wall)
- Cross Pleasant Street at Snake Hill
  - Potential to realign Snake Hill – reduce grade 20% to 12%
  - Construct Walls along Snake Hill
  - Private Property Encroachment
  - Signalized Intersection

From W5a      **COST = \$2.60M**

From W5b      **COST = \$1.33M**

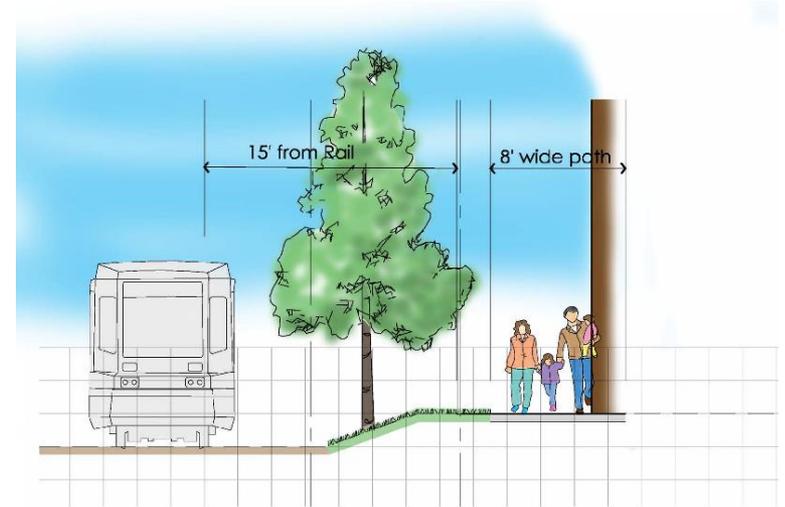


# CONTINUE TO CLARK STREET (C1)

## ■ C1b: CPAC Alignment

- Continue east of DPW on south side of rail
- 15' offset and 8' path minimums
- Encroaches on residential dwellings
- Does NOT include cost of takings/property negotiations

**COST = \$0.49M**



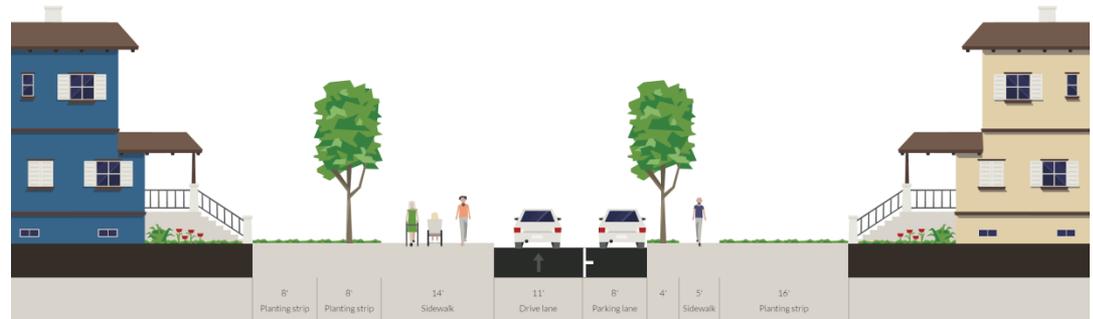
# CONTINUE TO CLARK STREET (C1)

## ■ C1c: CPAC Alignment

- Continue east of DPW through BHA
- Clark Lane has 12% grade at east end - cut behind building
- Cost includes new sidewalk construction and roadway resurfacing



### Pearson Road



### Clark Lane



**COST = \$0.63M**

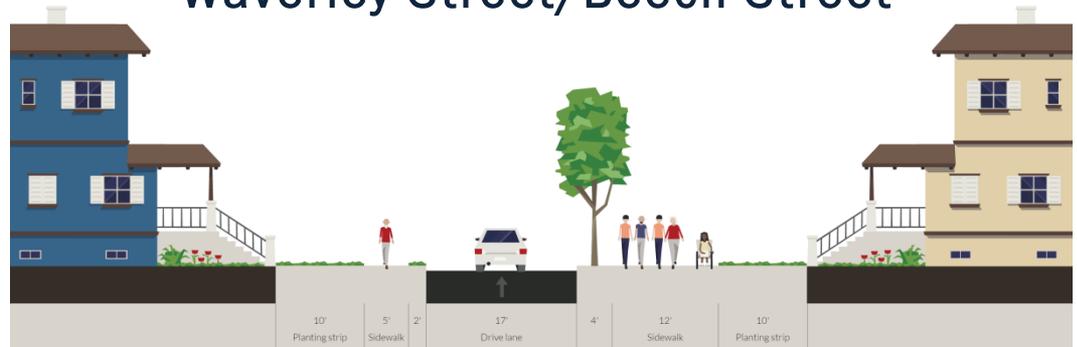
# CONTINUE TO CLARK STREET (C1)

- C1d: Alternative – Go around BHA/Clark Lane to the South
  - Make connection from DPW to Midland Street
  - Continue along Waverley, Thomas and Clark Streets
  - Connect to Beech Street Center and Town Field
  - Could consider converting Waverley/Beech to one-way pair
  - Cost includes two sidewalks and roadway reconstruction

## Waverley Street/Thomas Street



## Waverley Street/Beech Street



**COST = \$1.98M**

# CONTINUE TO CLARK STREET (C1)

## ■ Beech Street/Town Field

- Could consider connection as added value/connection to path
- Requires path to extend through DPW

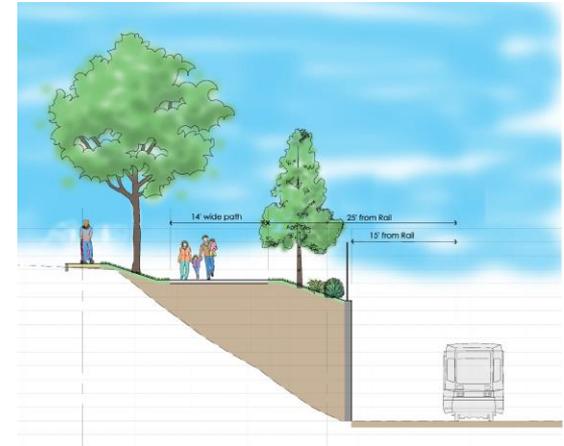


**COST = \$0.86M**

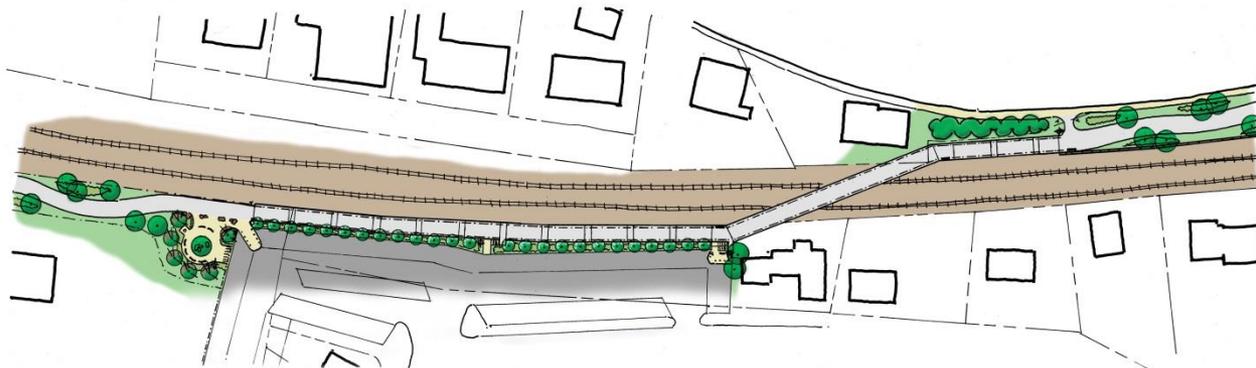


# CONTINUE TO CLARK STREET (C1)

- C1e: Alternative – Go around BHA/Clark Lane to the North
  - Make connection from BHA parking lot to south side Pleasant
  - Connect to Pleasant Street businesses/redevelopment
  - Requires structure along BHA lot and bridge
  - Requires retaining wall (approx. 18' tall) for 600' along Pleasant
  - Cost includes parking lot reconfiguration to maintain spaces

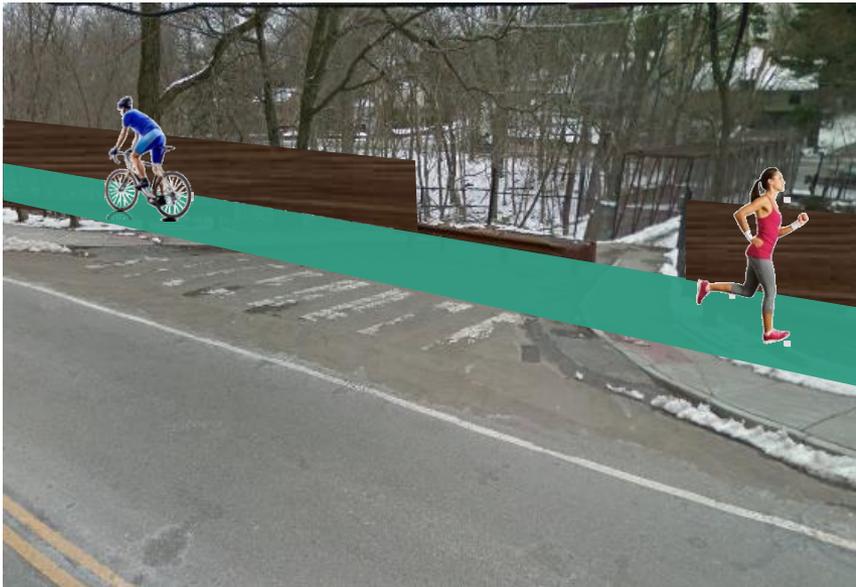


**COST = \$3.84M**



# CLARK STREET CONNECTIONS (C2)

- C2a: North to North
  - From C1a or C1e
  - Continue across Clark Street on south side of Pleasant
  - Maintain existing Clark Street bridge

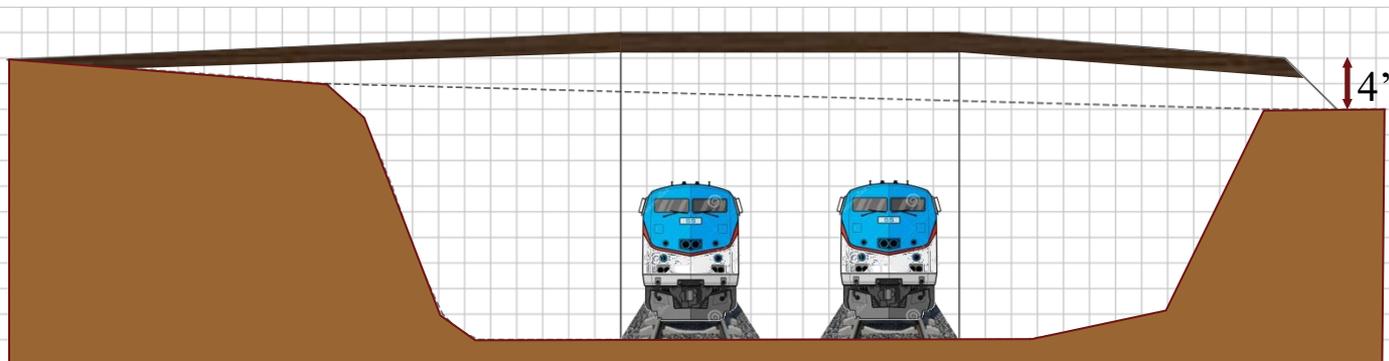


**COST = \$0.12M**

# CLARK STREET CONNECTIONS (C2)

- C2b: North to South or South to North
  - Reconstruct Clark Street bridge
  - Needs to be raised approx. 5' to meet 22'-6" clearance required by MBTA
  - Requires regrading on south side
  - Cost includes retained parking and stairs/access

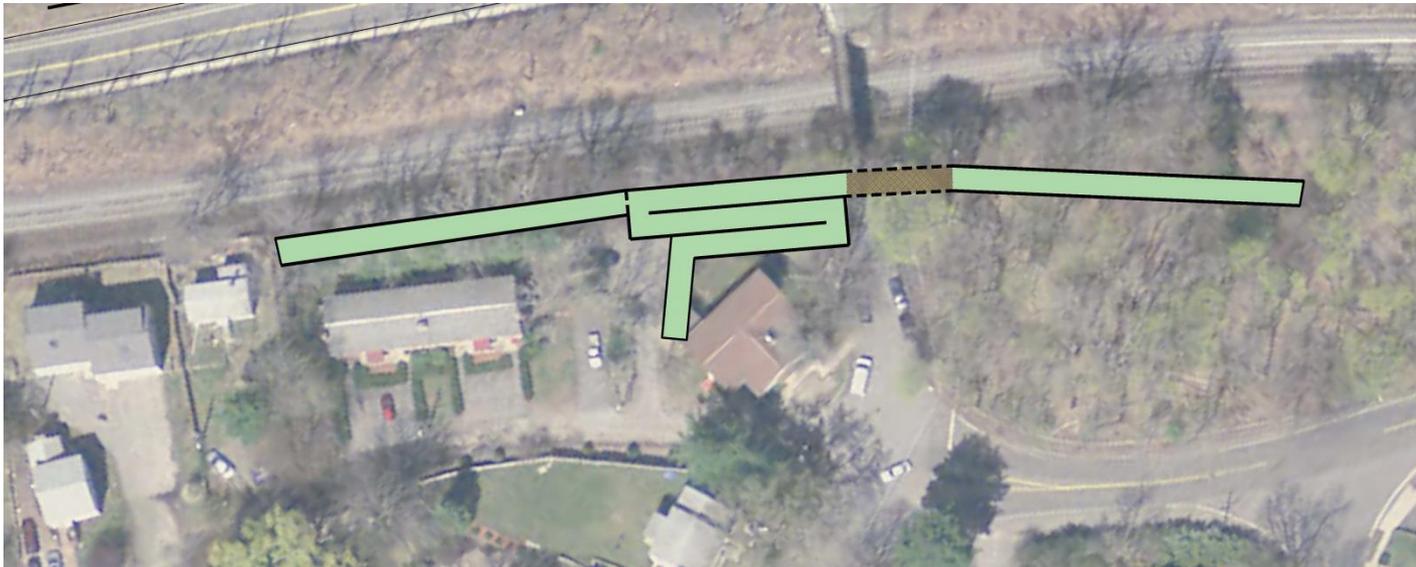
**COST = \$1.90M**



# CLARK STREET CONNECTIONS (C2)

## ■ C2c & C2d: South to South

- Maintain existing Clark Street bridge **C2c** **COST = \$0.39M**
- From C1b or C1c (higher cost)
  - Tunnel under Clark Street behind existing abutment **C2d** **COST = \$0.62M**
  - Ascend with retention/switchback to Clark Street and back down to Woods

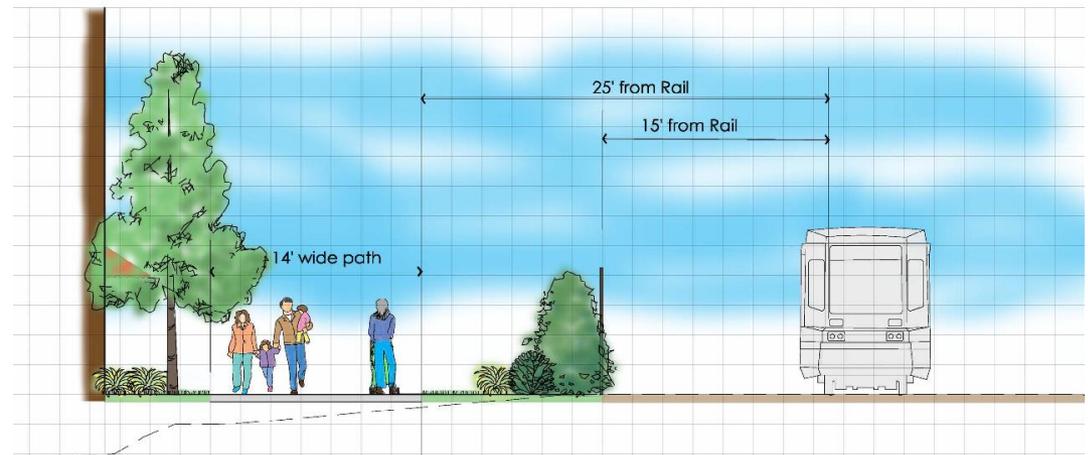
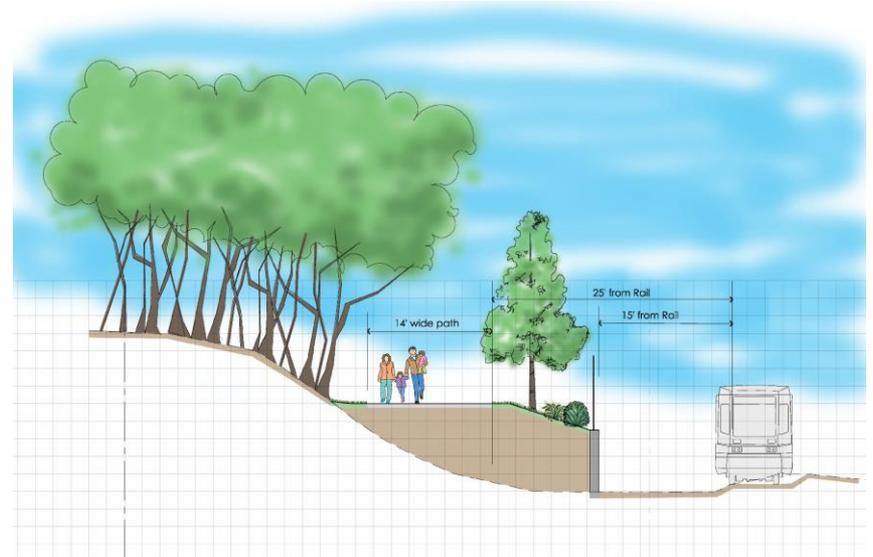


# CLARK STREET TO BELMONT CENTER (C3)

## ■ C3a: CPAC Alignment

- Continue along north side of rail
- Short wall needed east of Clark
- Connect to redevelopment of Municipal Light building
- Enters Belmont Center at track level – westbound platform

**COST = \$0.99M**



# CLARK STREET TO BELMONT CENTER (C3)

## ■ C3b: CPAC Alignment

- Continue along south side of rail
- Run through Royal Road Woods
- Connects to Belmont Center Station
- Allows for separate running path
- Wetland impacts not fully defined
  - May require extensive boardwalk (assumed for cost)

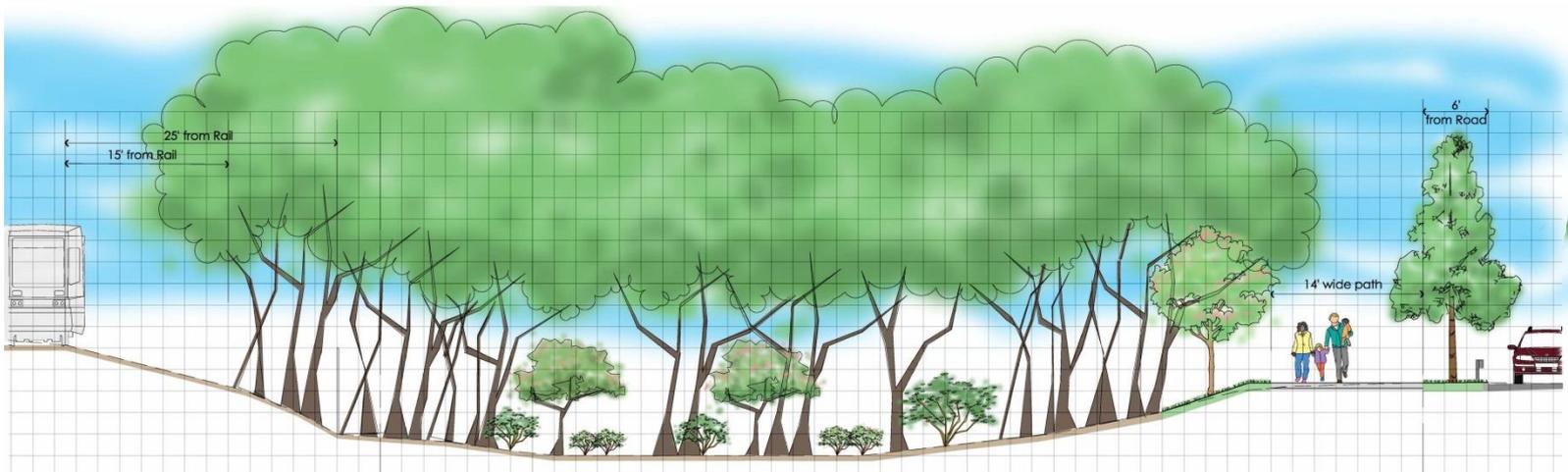
**COST = \$2.57M**



# CLARK STREET TO BELMONT CENTER (C3)

- C3c: Alternative – Run along Royal Road
  - Minimizes impacts to wetlands
  - Increases connection to neighborhood
  - Allows more room for park space

**COST = \$1.16M**



# BELMONT CENTER CONNECTIONS (C4)

- C4a: North to North
  - Continue at rail level across existing bridge structure
  - Create park and enhance downtown connection – cost as shown

**COST = \$1.76M**



# BELMONT CENTER CONNECTIONS (C4)

- C4b: North to South or South to North
  - Either Option: Descend or ascend to/from street through park
  - North to South must cross Concord Ave
  - Cost includes sidewalk reconstruction roadway resurfacing
- C4c: South to South
- Both require signalized crossing



**C4b**      **COST = \$0.79M**

**C4c**      **COST = \$0.59M**

# BELMONT CENTER CONNECTIONS (C4)

## ■ C4d: South to North

- Widen/shorten existing station access tunnel (cut and cover)
- Ramp up to track level across park space

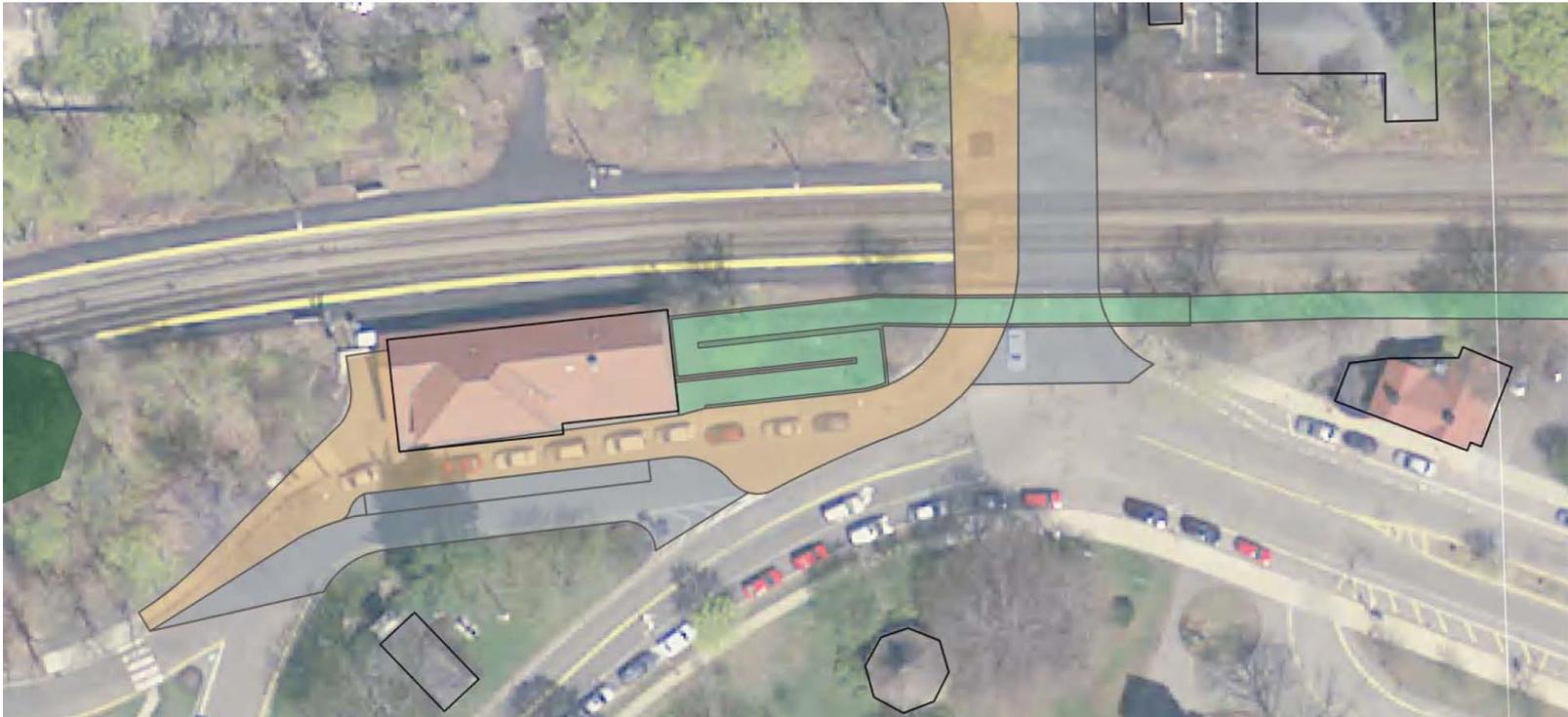


**COST = \$2.44M**

# BELMONT CENTER CONNECTIONS (C4)

- C4e: North to South or South to South
  - Ascend with switchback to track level
  - Structure adjacent to Belmont Center Station
  - Bridge parallel historic overpass

**COST = \$0.84M**



# MATRIX DEVELOPMENT

## CRITERIA

- Based on community input – PAST AND PRESENT
- Refined to 21 subcategories

Access and Connectivity	Environmental Impacts	Property Impacts	Sense of Security/ Comfort	Relative Cost
3	1	3	2	2

Matrix Definitions available at:  
[http://www.belmont-ma.gov/sites/belmontma/files/u151/matrix\\_definitions\\_02\\_08\\_17.pdf](http://www.belmont-ma.gov/sites/belmontma/files/u151/matrix_definitions_02_08_17.pdf)

## CRITERIA

User Experience
Ease of Access
Aesthetics
Comfort
Vehicular conflicts
Conflicts with pedestrian way
Environmental and Cultural Impacts
Wetlands
Historic resources
Mature Woodland
Design Attributes
Encroachments necessary/MOU
Fire and Safety
Potential Partnerships
Distance to residential structures
Transportation
Connectivity to Destinations (Resources, Amenities and Transit)
Ease of universal public accessibility
Consistency with regional plans (MCRT/Wayside Trail)
Impact on existing traffic/transportation
Rail conflicts/proximity
Cost
Range of Construction Costs
Operations and Maintenance Costs
Quality for Funding
Value Added

# MATRIX DEVELOPMENT

## USER EXPERIENCE

- Ease of Access - ramps, directness
- Aesthetics - views, landscaping, amenities
- Comfort - noise, pollution, personal space
- Vehicular Conflicts – intersections, driveways
- Pedestrian Conflicts – along or across walkways

CRITERIA
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Ease of Access
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Qualify for Funding
Value Added

# MATRIX DEVELOPMENT

## ENVIRONMENTAL/CULTURAL IMPACTS

- Wetlands
- Historic Resources
- Mature Woodlands

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Value Added

# MATRIX DEVELOPMENT

## DESIGN ATTRIBUTES

- Encroachments necessary/MOU
- Fire and Safety - views, remoteness, interference
- Potential Partnerships - land acquisition, funding, and/or maintenance
- Distance to residential structures – concern for impacts based on proximity to resident, not owner

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Qualify for Funding
Value Added

# MATRIX DEVELOPMENT

## TRANSPORTATION

- Connectivity to Destinations - resources, businesses, amenities and transit
- Ease of Universal Access - directness of accessible routes; quantity and challenge of accessible routes/ramps
- Consistency with Regional Plans
- Impact on existing traffic/transportation
- Rail Conflict/proximity

CRITERIA
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Range of Construction Costs
Operations and Maintenance Costs
Qualify for Funding
Value Added

# MATRIX DEVELOPMENT

## COST

- Range of Construction Costs
- Relative Operations and Maintenance Costs
- Qualify for various Funding sources
- Value Added

CRITERIA
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Qualify for Funding
Value Added

# MATRIX DEVELOPMENT

## WEIGHT THE CRITERIA

Public Input (Past and Present) indicate some relative importance: High quality recreational experience, community connectivity, off-road and safety



CRITERIA	
<u>User Experience</u>	} x2
Ease of Access	
Aesthetics	
Comfort	
Vehicular conflicts	
Conflicts with pedestrian way	
<u>Environmental and Cultural Impacts</u>	
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Historic resources	
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### Meeting #6 Priority - Directness



**Potential higher weight**



**Potential lower weight**

# MATRIX DEVELOPMENT: FATAL FLAWS

## **FATAL FLAWS – Not compatible with identified goal, eliminated from route consideration**

1. Direct impact to an existing residential dwelling
2. Over 5,000 sf of loss to high quality wetlands
3. Path location is infeasible to patrol or too difficult to access in emergency situations or impedes access to other areas under Town responsibility
4. MBTA has rejected the proposed alignment/know private owner will not agree/requires speculation about usability of land at time of BOS determination
5. Alignment crosses an intersection with various negative conditions including excessive vehicular traffic volumes, multiple approaches/conflict points, poor sight lines, and lack of signal/inability to add signalization or alignment crosses 5 or more highly trafficked driveways within 500 linear feet of path

# FOR DISCUSSION



# FOR DISCUSSION



# ROUTE EVALUATION

## COMPARISON

- What makes a Route “HIGH RANKING”?
  - Fatal Flaws – are NOT considered for a Route
  - “High Ranking” to be determined based on final scores
  - Cutoff = i.e. 50 out of 100?
- How to evaluate Routes?
  - Does a high ranking alternative raise the score of an adjacent low ranking alternative?
  - Does a low ranking alternative decrease the score of an adjacent high ranking alternative?
  - Do links and lengths count the same?

# WHAT'S NEXT?

- Consultant Team present alternative costs and expanded matrix and begin assessment of overall routes
- Cost/Matrix presentations and discussion:
  - Meeting 8: Eastern End (Downtown – Brighton) – March 8
  - Meeting 9: Cost Summary/Full Matrix/Funding – TBD

<http://www.belmont-ma.gov/community-path-implementation-advisory-committee-cpiac/pages/community-path-feasibility-study>

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